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imagery analysis report

First Surface Launch Test of WZ-1 Missile (SLBM-Related) Wuzhai Missile Test Complex, China (S)

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FIRST SURFACE LAUNCH TEST OF WZ-1 MISSILE (SLBM-RELATED) WUZHAI MISSILE TEST COMPLEX, CHINA (S)

1. ([redacted]) The first surface pad launch of a Wuzhai 1 (WZ-1; DEFSMAC designator for this vehicle is WU-1) solid propellant missile occurred on [redacted] at the Wuzhai Missile Test Complex (MTC; [redacted] China. Preparations for the launch were first identified in early December 1980 and culminated in a launch attempt from the A1 launch pad at Wuzhai SSM Research/Development/Training Launch Site A1/A2/A3 [redacted]. The submarine-launched ballistic missile (SLBM) land-based testing program has now entered the surface launch test phase at the Wuzhai MTC[1] (Figure 1). 25X1 25X1 25X1 25X1

2. (TSR) The first confirmed preparations for the surface launch test phase were observed at the A1 launch pad on [redacted] (Figure 2). Even earlier indications of possible launch test preparations were observed on [redacted] when a WZ-1 missile with an optical tracking stripe was erected on the A1 launch pad.[1] Although this was probably the final test in the surface erection test phase, the presence of an optical tracking stripe indicated that an operational missile may have been at the MTC as early as [redacted] Between [redacted] no testing was observed at Launch Site A1/A2/A3, and preparations for the first WZ-1 surface launch test were probably underway in the assembly and checkout buildings at the Wuzhai SSM Support Facility ([redacted] 25X1 25X1 25X1 25X1

3. (TSR) Preparations for beginning the surface launch test phase were first observed at the A1 launch pad on [redacted] (Figure 2) when the SLBM launch stand and the modified short-range ballistic missile transporter/erector (SRBM T/E) were returned to the A1 launch pad. The SRBM T/E, which has been modified by the addition of two foldable missile service platforms for servicing the WZ-1 missile, and the launch stand were not at the launch position at the center of the pad. They had probably just arrived at the launch site. 25X1

4. (TSR) On [redacted] a WZ-1 missile exercise was observed on the A1 launch pad (Figure 3). The launch stand and SRBM T/E were at the launch position in the center of the pad. A WZ-1 missile-handling operation was underway on the east side of the launch pad; an open missile canister was on a canister transporter and the top half of the canister had been removed and was lying on the apron. A light-toned WZ-1 first- and second-stage missile body was visible in the open missile canister, and a lifting fixture was attached to the missile body at two points. A large, truck-mounted crane was positioned between the launch stand and the open canister. The crane appeared to be lifting the missile into or out of the missile canister. A light-toned possible WZ-1 payload was visible in the back of an open cargo truck north of the open missile canister. The possible payload was in a vertical position. No determination of whether this was an operational missile or a dummy missile was possible. No optical tracking stripe was visible; however, the missile was possibly covered with light-toned canvas. 25X1

5. (S/D) When the A1 launch pad was next observed, on [redacted] the WZ-1 exercise had been concluded and only the SRBM T/E and the launch stand remained on the pad. The missile service platforms on the bed of the SRBM T/E were folded down and the T/E was covered with light-toned canvas. The empty SLBM canister transporter was parked in front of the large assembly and checkout building at the southwestern end of the Wuzhai SSM Support Facility. The missile canister was not observed and may have been in the building for final checkout in preparation for the subsequent launch test. 25X1

[redacted] 25X1

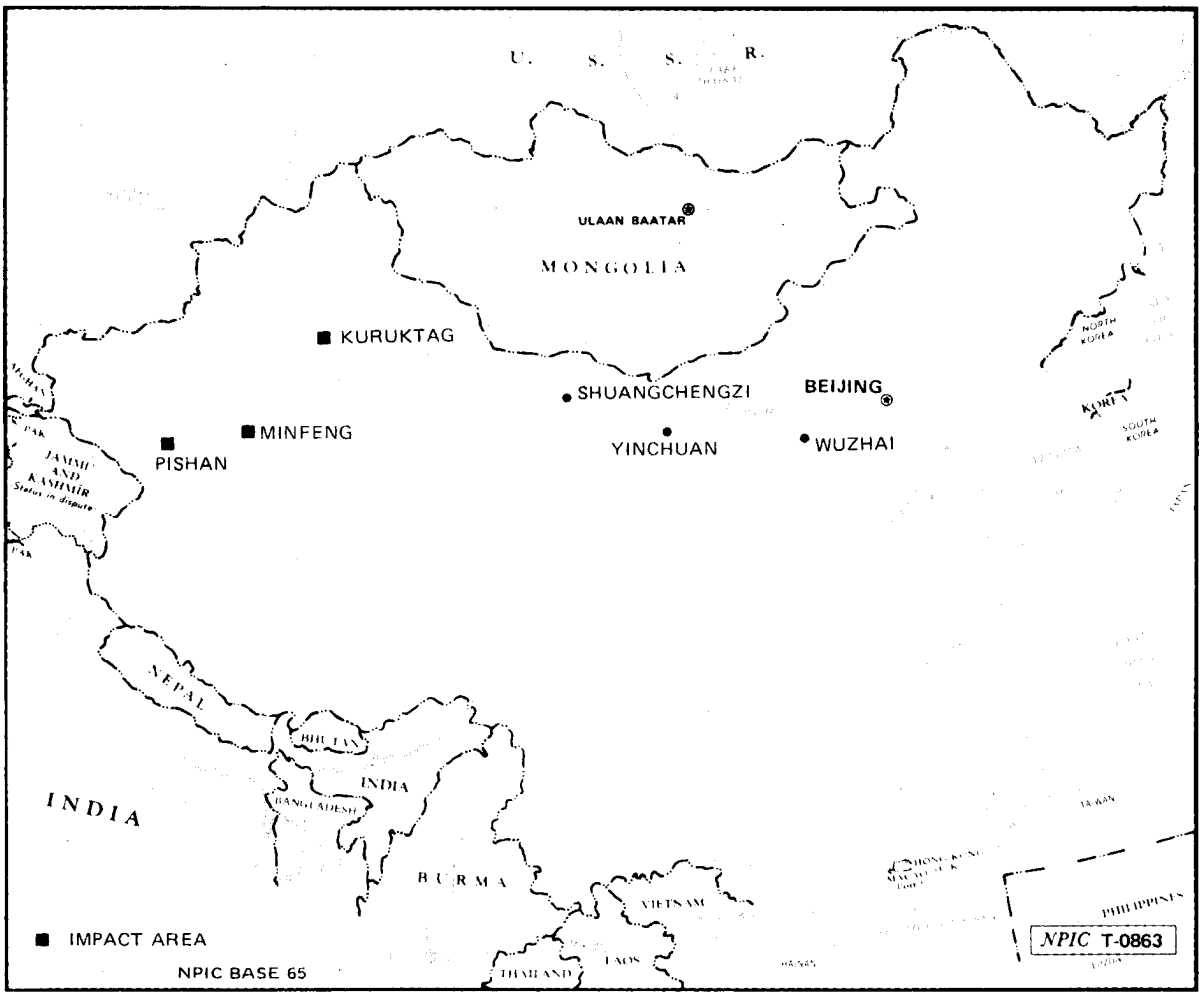

FIGURE 1. SLBM LAUNCH-RELATED FACILITIES, CHINA

6. [redacted] no significant change in the disposition of the SLBM ground support equipment was observed. The MTC was snow covered on [redacted] however, the A1 launch pad was the only pad from which the snow had been removed (Figure 4), indicating that activity was anticipated at that launch pad. High-frequency radio communications were reported to have occurred on [redacted] in support of launch preparations.[2] The following areas were active in some of the communications: Wuzhai, Yinchuan, Shuangchengzi, and an undetermined western impact area (Figure 1). The type of communications and locations of these areas indicated that the Chinese were preparing for a launch from the Wuzhai MTC to one of the western impact areas. 25X1 25X1 25X1

7. (TSR) On [redacted] by 0250Z, a WZ-1 missile had been emplaced on the launch stand at the A1 launch pad (Figure 5). A light-toned payload was visible on top of the missile. The bed of the SRBM T/E was erected in the vertical missile support position and the two missile 25X1

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service platforms appeared to encircle the missile. A cable was visible on the apron between the southern corner of the launch stand and a drive-down revetment at the southeastern edge of the launch pad. Two unidentified van trucks were on the launch pad west and northwest of the launch position. One unidentified van trailer was parked in an open area east-northeast of the launch pad. Tracking equipment was also deployed on [redacted] at the Wuzhai MTC Instrumentation Area [redacted] Figure 6). Three telemetry/tracking (T/T) van trucks were deployed in a triangular tracking configuration which could have supported either an eastern or a western launch azimuth. One probable T/T van trailer, one truck, two generator trailers, and several personnel were also present. A probably empty WZ-1 canister on a canister transporter was in front of the northern CSS-2 assembly and checkout building in the SSM support facility. 25X1 25X1

[redacted] 25X1

9. (TSR) When Wuzhai MTC was again imaged, on oblique imagery on [redacted] 25X1 confirmation of the launch was observed at the A1 launch pad. Only the launch stand remained on the launch pad. A plus-shaped burn mark, centered on the launch stand, was visible in the middle of the pad (Figure 7). A burn mark from previous CSS-2 launches at this launch pad had been visible on the northwestern and southeastern sides of the launch position (Figure 2). The new burn mark was visible on the northeastern and southwestern sides of the launch position, in addition to some darkening of the two existing blast marks. The launch stand remained centered on the pad, and the two extendable possible umbilical arms on the launch stand were in the raised position. The launch stand appeared undamaged, and debris was not visible in the immediate launch site area. This indicated that a catastrophic failure of the missile had not occurred. The size of the burn mark on the pad was similar to the size of the burn marks caused by CSS-2 missile launches, but it spread in four directions from the launch stand rather than in two directions. The small burn marks and lack of observable concrete erosion indicated that the WZ-1 missile did not remain on the launch stand for an extended period at full thrust following ignition.

10. (TSR) Further indications that the launch test had been concluded were observed at the instrumentation area and the SSM support facility on [redacted] At the instrumentation area, the T/T van trailer and one of the three T/T van trucks that had been deployed in a tracking configuration on [redacted] (Figure 6) were removed from the area on [redacted] On subsequent imagery of [redacted] the remainder of the T/T equipment had been removed from the area. This indicated that the launch cycle that was intended to be supported by this T/T equipment was completed. At the SSM support facility on [redacted] a probable, empty SLBM canister, on a canister transporter, had been moved to the apron in front of the large assembly and checkout building at the southern end of the support facility. The SRBM T/E was near the road in the CSS-2 assembly and checkout area in the center of the facility. A truck-mounted crane was in front of the northern CSS-2 assembly and checkout building, apparently lifting an unidentified object. No identifiable WZ-1 missile pieces, components, or stages were visible within the support facility. 25X1 25X1 25X1 25X1

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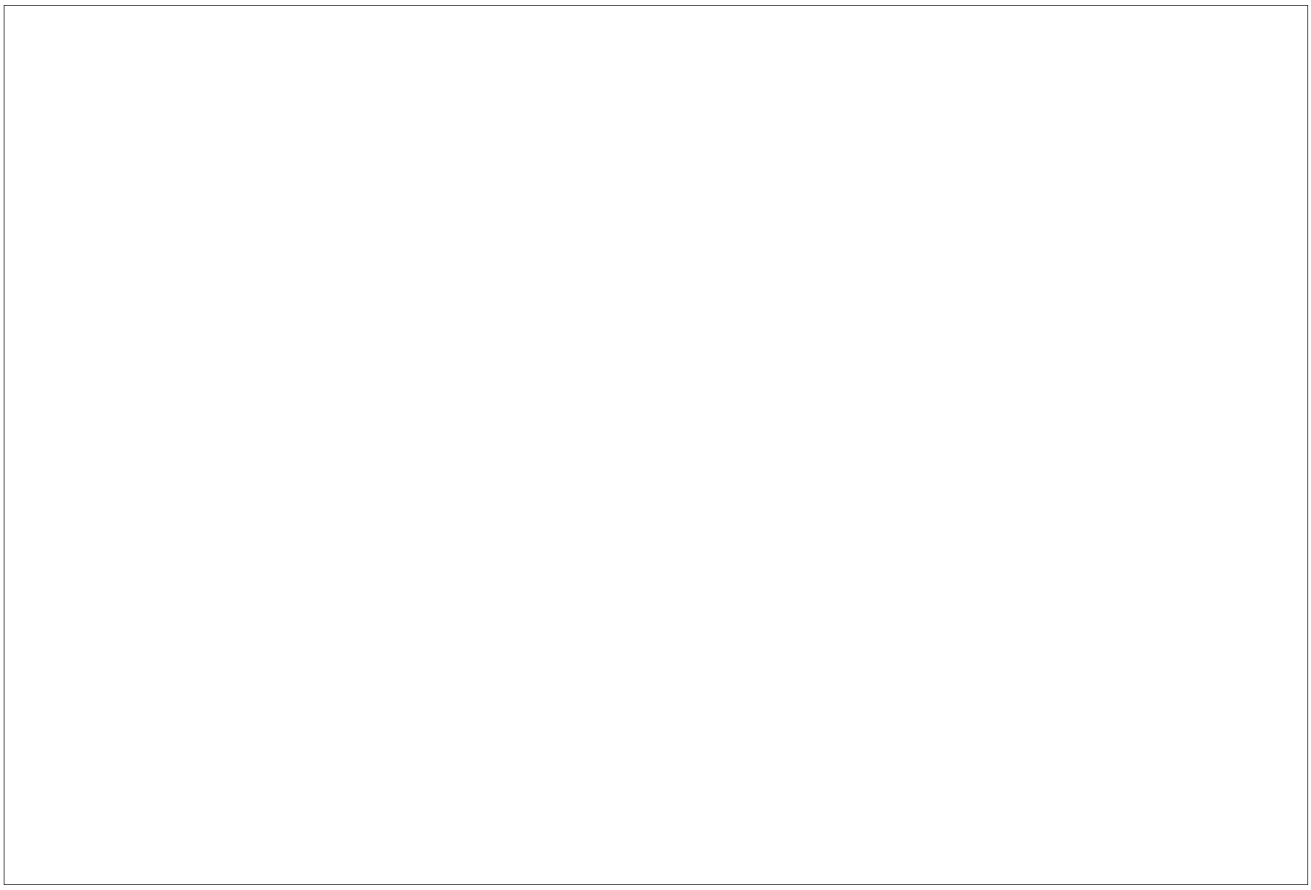

Imagery Analyst's Comments

11. [redacted] Analysis of all available imagery indicated that the first surface launch test[1] of the WZ-1 missile occurred at the Wuzhai MTC A1 launch pad on [redacted] Confirmed preparations for this test were first observed on [redacted] and evidence of only one rehearsal, on [redacted] was observed. Additional, unobserved rehearsals may have occurred. [redacted] 25X1 25X1 25X1 25X1 25X1

[redacted]

Imagery-derived information, however, indicated that no catastrophic failure of the missile occurred on or near the launch pad. No impact craters or other debris were observed on the partial imagery available of the Wuzhai MTC area. It is possible that the test was a partial failure because of insufficient thrust development. It is also possible that the test was intended to test launch-initiation equipment and the launch stand, not to conduct a full-range missile launch. A more remote possibility is that the missile was intended to be substandard in thrust. Based on imagery, no firm conclusions could be reached from among these possibilities as to the nature and purpose of the [redacted] surface launch test. 25X1

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REFERENCES

IMAGERY

(TSR) All applicable imagery acquired between [redacted] 25X1
[redacted] was used in the preparation of this report. 25X1

DOCUMENTS

1. NPIC. [redacted] IAR-0316/80, *SLBM Land-Based Test Activity, Wuzhai Missile Test Complex, China (S)*, Jan 81 (TOP SECRET [redacted] 25X1 25X1
2. DEFSMAC. K/DQ/1-81, *Possible SLBM Launch Attempt by PRC Fails on Pad* [redacted] 022147Z Jan 81 (TOP SECRET [redacted] 25X1 25X1
3. DEFSMAC. K/DQ/11-80 [sic], Follow-up Number One to K/DQ/1-81, *Attempted Possible SLBM (WU-1) Launch in PRC on* [redacted] 071524Z Jan 81 (TOP SECRET [redacted] 25X1
4. DEFSMAC. K/DQ-0015-81 Special Follow-up Nr. One to K/DQ-0001-81, *Data Summary for PRC SLBM Activity on* [redacted] *[sic] (TSC)*, 090126Z Jan 81 (TOP SECRET [redacted] 25X1

(S) Comments and queries regarding this report are welcome. They may be directed to [redacted] 25X1
[redacted] Asian Forces Division, Imagery Exploitation Group, NPIC, [redacted] 25X1

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